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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/818,715	03/27/2001	Kwok Pun Lee	US010071	1324

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EXAMINER	
HUYNH, THU V	
ART UNIT	**PAPER NUMBER**
2178	

DATE MAILED: 07/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/818,715	LEE ET AL.	
	Examiner	Art Unit	
	Thu V Huynh	2178	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 March 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *06/18/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to communications: IDS filed on 11/24/2003 and 02/25/2004; and application filed on 03/27/2001.

2. Claims 1-114 are pending in the case. Claims 1 and 8 are independent claims.

Specification

3. The disclosure is objected to because of the following informalities:

The disclosure is objected to because information regarding related applications cited at page 5, line 7 has not been update.

Appropriate correction is required.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-5 and 8-12 are rejected under the judicially created doctrine of

obviousness-type double patenting as being unpatentable over claims 1-6 and 10-14 of U.S. Patent No. 6,725,231 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Regarding independent claim 1 in the instant invention, applicant claims a method for mapping a DICOM-SR document into an XML document, comprising:

- mapping each DICOM attribute of a plurality of DICOM attributes in the DICOM-SR document into a corresponding XML element of a plurality of XML elements, and
- outputting each XML element of the plurality of XML elements to the XML document, in a format that conforms to an XML document-type-definition of the XML document.

Regarding independent claim 1 in the invention of US Patent 6,725,231 B2, the '231 patent teaches a method for mapping a DICOM-SR document into an XML document, comprising:

- mapping each entry of a DICOM table of the DICOM specification into a corresponding XML element of a plurality of XML elements,
- outputting each XML element of the plurality of XML elements to the XML document, in a output format that conforms to at least one of: an XML document-type-definition and an XML Schema.

Further '23 teaches in claim 4 that DICOM table corresponding to at least one of: a DICOM Structured Reporting (SR) Information Object Description (IOD) table, a DICOM SR Module Attribute table, and a DICOM SR Macro Attribute table.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have recognized that the step of "mapping each DICOM attribute of a plurality of DICOM attributes in the DICOM-SR document into a corresponding XML element of a plurality of XML elements" must be included, since "DICOM SR Module Attribute table" is implemented.

Regarding dependent claim 2 in the instant invention, which is dependent on claim 1, the '231 teaches the limitations of claim 1 as explained above. The '231 specifically teaches wherein outputting each XML element includes formatting the XML element via one or more XSLT templates to conform to XML document-type-definition (The '231, claims 2 and 11).

Regarding dependent claim 3 in the instant invention, which is dependent on claim 2, the '231 teaches the limitations of claim 2 as explained above. The '231 specifically teaches wherein the formatting of the XML element is via an XSLT engine (The '231, claim 3).

Regarding dependent claim 4 in the instant invention, which is dependent on claim 2, the '231 teaches the limitations of claim 2 as explained above. The '231 teaches wherein the one or more XSLT templates correspond to one or more DICOM Information Entities (The '231, claims 4 and 6).

Regarding dependent claim 5 in the instant invention, which is dependent on claim 1, the '231 teaches the limitations of claim 1 as explained above. The '231 specifically teaches wherein the mapping of each DICOM attribute into a corresponding XML element is independent of the XML document-type-definition of the XML document (The '231, claim 5).

Regarding independent claim 8 in the instant invention, applicant claims a DICOM to XML conversion system that comprises:

- a DICOM parser that is configured to provide a plurality of DICOM attributes from a DICOM data file, and
- an XML formatter, operably coupled to the DICOM parser, that is configured to provide a plurality of XML elements corresponding to the plurality of DICOM attributes.

Regarding independent claim 10 in the invention of US Patent 6,725,231 B2, the '231 patent teaches a DICOM to XML conversion system that comprises:

- a DICOM table extractor that is configured to provide a plurality of table entries from a DICOM specification, and
- an XML formatter, operably coupled to the DICOM table extractor, that is configured to provide a plurality of XML elements corresponding to the plurality of DICOM attributes.

Further '231 teaches in claim 14 that DICOM table corresponding to at least one of: a DICOM Structured Reporting (SR) Information Object Description (IOD) table, a DICOM SR Module Attribute table, and a DICOM SR Macro Attribute table.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have recognized that the step of "a DICOM parser that is configured to provide a plurality of DICOM attributes from a DICOM data file" must be included, since "DICOM SR Module Attribute table" is implemented.

Regarding dependent claim 9 in the instant invention, which is dependent on claim 8, the '231 teaches the limitations of claim 8 as explained above. The '231 specifically teaches wherein the XML formatter is configured to provide the plurality of XML elements in a format that conforms to an XML document-type-definition of an XML document comprising the plurality of XML elements (The '231, claim 11).

Regarding dependent claim 10 in the instant invention, which is dependent on claim 9, the '231 teaches the limitations of claim 9 as explained above. The '231 specifically teaches wherein the XML formatter includes an XSLT engine that is configured to provide the plurality of XML elements based on one or more XSLT stylesheet templates that conform to the XML document-type-definition (The '231, claims 11 and 12).

Regarding dependent claim 11 in the instant invention, which is dependent on claim 10, the '231 teaches the limitations of claim 10 as explained above. The '231

specifically teaches wherein the one or more XSLT stylesheet templates correspond to one or more DICOM Information Entities (The '231, 12 and 14 when DICOM IOD module table is implemented, DICOM Information Entities must be included).

Regarding dependent claim 12 in the instant invention, which is dependent on claim 9, the '231 teaches the limitations of claim 9 as explained above. The '231 specifically teaches an XML builder, operably coupled between the DICOM parser and the XML formatter, that is configured to affect a direct mapping of each DICOM attribute of the plurality of DICOM attributes into a corresponding XML element of the plurality of XML elements independent of the XML document-type-definition (The '231, claim 13).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> (b) This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. **Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over**

Maloney, US 2002/0122057, filed on 03/02/2001, and in view of Clunie, "DICOM SR Meets XML" and "SR Object Model (SR-OM)", pages 1-22, NEMA SR Workshop 03/29-30/2000, and Claussen et al., US 6,732,330, filed 09/1999.

Regarding independent claim 1, Maloney teaches the steps of:

- mapping each DICOM attribute of a plurality of DICOM attributes in the DICOM document into a corresponding XML element of a plurality of XML elements (Maloney, figures 1A-1C; page 2, paragraph 33; In figure 1A, server provides DICOM documents to user at Clinical display, wherein the DICOM data is stored in Information Storage. In figure 1C, building patient description XML document from DICOM data source. This inherently discloses that the DICOM attributes in the Information Storage of the DICOM document must be map into a corresponding XML elements in order to create an XML document to provide to user); and
- outputting each XML element of the plurality of XML elements to the XML document in a format (Maloney, figures 1C; page 2, paragraphs 33-35).

Maloney teaches "XML provides mechanism (e.g., CSS, XSLT, XSL) to render information for display" (Maloney, page 4, paragraph 45). However, Maloney does not explicitly disclose the DICOM-SR document and the format conforms to an XML document-type-definition of the XML document.

Clunie teaches mapping each DICOM attribute of a plurality of DICOM-SR attributes in the DICOM document into a corresponding XML element of a plurality of XML elements (Clunie, pages 4-5, converting DICOM to XML wherein DICOM

attributes are mapped to element of XML); and XML includes DTD and Style sheets XSL (Clunie, pages 2 and 9).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Clunie and Maloney, since this would have allowed a DICOM-SR document among other DICOM types converted to XML.

Claussen teaches outputting each XML element of the plurality of XML elements to the XML document in a format that conforms to an XML document-type-definition of the XML document (Claussen, col.1, lines 30-41 and col.2, lines 1-5; eXentsible Stylesheet Language (XSL) templates used to formatting and manipulating XML of any custom DTD).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Claussen into Maloney and Clunie to provide a format that conforms to an XML document-type-definition (DTD) of the XML, since XSL/XSLT used to format XML according with a DTD associated with it (Claussen, col.1, lines 30-42), as well as "to render information for display" (Maloney disclosed in page 4, paragraph 45). It is noted that XSL used to transform/format one XML document to another XML document that conform to a different DTD was standard and well known in the art at the time the invention was made.

Regarding dependent claim 2, which is dependent on claim 1, Maloney, Clunie and Claussen teach the limitations of claim 1 as explained above. Refer to the rationale relied to reject claim 1, the limitations of "wherein outputting each XML element

includes formatting the XML element via one or more XSLT templates to conform to the XML document-type-definition" is addressed. The rationale is incorporated herein.

Regarding dependent claim 3, which is dependent on claim 2, Maloney, Clunie and Claussen teach the limitations of claim 2 as explained above. Refer to the rationale relied to reject claim 2, the limitation of "wherein the formatting of the XML element is via an XSLT engine" must be included. The rationale is incorporated herein.

Regarding dependent claim 4, which is dependent on claim 2, Maloney, Clunie and Claussen teach the limitations of claim 2 as explained above. Maloney does not explicitly teach wherein the one or more XSLT templates correspond to one or more DICOM Information Entities.

Clunie teaches parsing plurality of DICOM attributes from a DICOM data file in order to convert the DICOM data file to an XML data file, wherein the XML data file is rendered including DICOM Information Entities (Clunie, pages 11-13, Patient information).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Clunie and Maloney to have XSLT templates correspond to one or more DICOM Information Entities, since Maloney's system using XSLT templates to format the XML data file, such template must be correspond to one or more DICOM Information Entities in order to render such XML including such Information Entities.

Regarding dependent claim 5, which is dependent on claim 1, Maloney, Clunie and Claussen teach the limitations of claim 1 as explained above. Refer to the rationale relied to reject claim 1, Maloney teaches the mapping step is processed and out put the XML document to the user in a format without using DTD as explained above. Therefore limitation of "wherein the mapping of each DICOM attribute into a corresponding XML element is independent of the XML document-type-definition of the XML document" is included. The rationale is incorporated herein.

Regarding dependent claim 6, which is dependent on claim 1, Maloney, Clunie and Claussen teach the limitations of claim 1 as explained above. Clunie teaches

- parsing each DICOM attribute to segregate a DICOM data type, and a DICOM codeID from the DICOM attribute (Clunie, pages 4-5 and 11-13; parser used to parse a DICOM document, which includes DICOM attributes, such as data type "(0x0040,0xa040)<PNAME>" and codeID "(0x0008,0x0100)<000555>" in order to convert the DICOM into XML), and wherein the mapping includes:
- assigning the DICOM codeID to an attribute of the corresponding XML element (Clunie, page 8, teaches "XML Alternatives" wherein <contentlable> and <relationshiptype> elements insides <contentitem> element are attributes of <contentitem> element that have attributes' values are "1.1" and "HAS OBS CONTEXT". Pages 4-5 for mapping DICOM attribute to XML element. Applying this to page 5, lines 6-10, the <codevalue> element is an attribute of <codesequence> element that has value is "000555"); and

- mapping the DICOM data type to a corresponding value type of the corresponding XML element (Clunie, pages 4-5; mapping "Value Type <PNAME>" to "<valuetype>PNAME</valuetype>"); and
- assigning the corresponding value type to an attribute of the corresponding XML element (Clunie, page 8, teaches "XML Alternatives" wherein <contentlable> and <relationshiptype> elements insides <contentitem> element are attributes of <contentitem> element that have attributes' values are "1.1" and "HAS OBS CONTEXT". Pages 4-5 for mapping DICOM attribute to XML element. Applying this to page 5, lines 1 and 12, the <valuetype> element is an attribute of <contentiem> element that has value is "PNAME").

Clunie does not explicitly disclose first and second attributes. However, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to assign DICOM codeID and value type to first and second attributes of the corresponding XML.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Clunie and Maloney to provide such parsing and mapping steps, since this would have allowed an thoroughly method to convert an DICOM to XML.

Regarding dependent claim 7, which is dependent on claim 6, Maloney and Clunie teach the limitations of claim 6 as explained above. Refer to the rationale relied to

reject claim 7. Clunie teaches parsing the DICOM attributes of DICOM SR and mapping such attributes into attribute of the corresponding XML elements as explained above.

It would have been obvious to a person ordinary skill in the art at the time the invention was made to have includes parsing and mapping steps for a DICOM attribute value, since this would have allowed converting DICOM with any attributes into XML. As discussed in claim 6 above, Clunie does not explicitly disclose third attribute. However, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to assign DICOM attribute value to a third attribute of the corresponding XML, since it is standard and well known that element's attributes are treated the same if the attributes' order in the element change.

8. **Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clunie, "DICOM SR Meets XML" and "SR Object Model (SR-OM)", pages 1-22, NEMA SR Workshop 03/29-30/2000.**

Regarding independent claim 8, Clunie teaches the steps of:

- a DICOM parser that is configured to provide a plurality of DICOM attributes from a DICOM data file (Clunie, pages 11-13; parser used to parse a DICOM document in order to convert the DICOM document to XML document); and
- an XML formatter that is configured to provide a plurality of XML elements corresponding to the plurality of DICOM attributes (Clunie, pages 11-13; transcoding into XML document).

Clunie does not explicitly dislose XML formatter, operably coupled to the DICOM parser. However, it would have been obvious to a person of ordinary skill in the

art at the time the invention was made to have included the XML formatter coupled to the DICOM parser in a system, since the DICOM parser and XML formatter is connect together in the process.

9. **Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clunie as applied to claim 8 above and further in view of Claussen et al., US 6,732,330, filed 09/1999.**

Regarding dependent claim 9, which is dependent on claim 8, Clunie teaches the limitations of claim 8 as explained above. Clunie does not explicitly disclose wherein the XML formatter is configured to provide the plurality of XML elements in a format that conforms to an XML document-type-definition of an XML document comprising the plurality of XML elements.

Claussen teaches outputting each XML element of the plurality of XML elements to the XML document in a format that conforms to an XML document-type-definition of the XML document (Claussen, col.1, lines 30-41 and col.2, lines 1-5; eXentsible Stylesheet Language (XSL) templates used to formatting and manipulating XML of any custom DTD).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Claussen and Clunie to provide a format that conforms to an XML document-type-definition (DTD) of the XML, since XSL/XSLT used to format XML according with a DTD associated with it (Claussen, col.1, lines 30-42), as well as "to render information for display" (Maloney disclosed in page 4, paragraph 45). It is noted that XSL used to transform/format one XML document to

another XML document that conform to a different DTD was standard and well known in the art at the time the invention was made.

Regarding dependent claim 10, which is dependent on claim 9, Clunie and Claussen teach the limitations of claim 9 as explained above. Refer to the rationale relied to reject claim 9, the limitation "wherein the XML formatter includes an XSLT engine that is configured to provide the plurality of XML elements based on one or more XSLT stylesheet templates that conform to the XML document-type-definition" is included. The rationale is incorporated herein.

Regarding dependent claim 11, which is dependent on claim 10, Clunie and Claussen teach the limitations of claim 10 as explained above. Clunie does not explicitly disclose wherein the one or more XSLT stylesheet templates correspond to one or more DICOM Information Entities. However, Clunie teaches parsing plurality of DICOM attributes from a DICOM data file in order to convert the DICOM data file to an XML data file, wherein the XML data file is rendered including DICOM Information Entities (Clunie, pages 11-13, Patient information).

Claussen teaches XSL/XSLT template used to formating an XML document in a format that conform to an author defined DTD (Claussen, col.1, lines 30-41 and col.2, lines 1-5.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined Claussen and Clunie to use XSL/XSLT template

correspond to DICOM Information Entities, since this would have allowed rendering the XML including DICOM Information Entities.

10. **Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clunie in view of Claussen as applied to claim 9 above and further in view of Maloney, US 2002/0122057, filed on 03/02/2001.**

Regarding dependent claim 12, which is dependent on claim 9, Clunie and Claussen teach the limitations of claim 9 as explained above. Clunie does not explicitly disclose an XML builder, operably coupled between the DICOM parser and the XML formatter, that is configured to effect a direct mapping of each DICOM attribute of the plurality of DICOM attributes into a corresponding XML element of the plurality of XML elements independent of the XML document-type-definition.

Maloney teaches XML builder maps each DICOM attribute of a plurality of DICOM attributes in the DICOM document into a corresponding XML element of a plurality of XML elements and outputting each XML element of the plurality of XML elements to the XML document in a format without using DTD (Maloney, figures 1A-1C; page 2, paragraph 33-35).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combine Maloney into Clunie and Claussen to include an XML builder coupled between Clunie and Claussen's DICOM parser and the XML formatter to map DICOM attributes to XML elements before transforming/formatting to a specific XML using XSL, since this would allow the XML elements to transforming or

formatting into any custom XML using XSL/XSLT that is conformed to any author defined DTD.

Regarding dependent claim 13, which is dependent on claim 12, Clunie Claussen and Maloney teach the limitations of claim 12 as explained above. Clunie specifically teaches:

- parsing each DICOM attribute to segregate a DICOM data type, and a DICOM codeID from the DICOM attribute (Clunie, pages 4-5 and 11-13; parser used to parse a DICOM document, which includes DICOM attributes, such as data type "(0x0040,0xa040)<PNAME>" and codeID "(0x0008,0x0100)<000555>" in order to convert the DICOM into XML), and wherein the mapping includes:
- assigning the DICOM codeID to an attribute of the corresponding XML element (Clunie, page 8, teaches "XML Alternatives" wherein <contentlable> and <relationshiptype> elements insides <contentitem> element are attributes of <contentitem> element that have attributes' values are "1.1" and "HAS OBS CONTEXT". Pages 4-5 for mapping DICOM attribute to XML element. Applying this to page 5, lines 6-10, the <codevalue> element is an attribute of <codesequence> element that has value is "000555"); and
- mapping the DICOM data type to a corresponding value type of the corresponding XML element (Clunie, pages 4-5; mapping "Value Type <PNAME>" to "<valuetype>PNAME</valuetype>"); and

- assigning the corresponding value type to an attribute of the corresponding XML element (Clunie, page 8, teaches "XML Alternatives" wherein <contentlable> and <relationshiptype> elements insides <contentitem> element are attributes of <contentitem> element that have attributes' values are "1.1" and "HAS OBS CONTEXT". Pages 4-5 for mapping DICOM attribute to XML element. Applying this to page 5, lines 1 and 12, the <valuetype> element is an attribute of <contentiem> element that has value is "PNAME").

Clunie does not explicitly disclose first and second attributes. However, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to assign DICOM codeID and value type to first and second attributes of the corresponding XML

Regarding dependent claim 14, which is dependent on claim 13, Clunie, Claussen and Maloney teach the limitations of claim 13 as explained above. Refer to the rationale relied to reject claim 14. Clunie teaches parsing the DICOM attributes of DICOM SR and mapping such attributes into attribute of the corresponding XML elements as explained above.

It would have been obvious to a person ordinary skill in the art at the time the invention was made to have includes parsing and mapping steps for a DICOM attribute value, since this would have allowed converting DICOM with any attributes into XML. As discussed in claim 7 above, Clunie does not explicitly disclose third attribute. However, it would have been obvious to a person of ordinary skill in the art at the time

the invention was made to assign DICOM attribute value to a third attribute of the corresponding XML.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Clunie, "Structure Reporting – More Complex Examples", 03/29-30/2000, http://medical.nema.org/dicom/srworkshop/srcx20000330.ppt

Clunie, "DICOM SR Tools – dicom3tools", 03/29-30/2000, published 03/29-30/2000, http://medical.nema.org/dicom/srworkshop/srdct20000330.ppt

Oosterwijk, "DICOM explained in the context of Structured Reporting", 03/29-30/2000.

DICOM Standards Committee, "Digital Image and Communications in Medicine (DICOM), version 03/2000.

Johnson, US 2001/0037346 A1, priority filed 05/2000, teaches extensible markup language genetic algorithm.

Chen et al., US 6,668,354 B1, filed 01/1999, teaches automatic display script and style sheet generation.

Friedman, US 6,182,029 B1, filed 1999, teaches method for language extraction and encoding utilizing accordance with domain parameters.

Groezinger, US 6,101,407, filed 1998, teaches remotely viewing and configuring output from a medical imaging device.

Wong et al., US 6,260,021 B1, filed 1998, teaches computer-based medical image distribution system and method.

US 2002/0111932 A1, priority filed 10/2000, teaches method for generation of medical reports from data in a hierarchically-organized database.

Stapel et al., US 2002/0087571 A1, priority filed 10/2000, teaches method for dynamic generation of structured document.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu V Huynh whose telephone number is 703-305-9774. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather R Herndon can be reached on 703-308-5186. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

STEPHEN S. HONG
PRIMARY EXAMINER

TVH
June 23, 2004